



QUALITY: Catches are iced and packed for export mainly to New Zealand and Hawaii from Tonga

Tonga's targeted deep line fishery

Quentin Bates

When Jo Rowley and his family sold their tuna longliners and processing company that had been built up through the 1970s and 1980s, retirement was what he was looking forward to and he bought a 12m fast fishing boat as something to keep himself active in retirement.

But things don't always work out that way and Jo Rowley quickly found himself at the centre of a growing fishery for deepwater species as his new venture, Deep Drop Commercial, began to grow as he began fishing on seamounts as far as 100 nautical miles offshore.

His boat was fitted with electronics including Roxann and Maxsea 3D that made it possible to carry out his own bathymetric sweeps and to produce data to locate the most likely areas for finding high-value deep water species for export to US markets as well as for the growing Australian domestic market.

A key part of developing this fishery has been the Virhydro hydraulic reels that the French manufacturer supplied and modified to meet his requirements for

fishing with as much 1500m of Spectra line on the reels.

Building on the success of the deep water fishery he has pioneered, Jo Rowley has branched out into consultancy work with Deep Drop Commercial taking part in an exploratory deep water project in the Kingdom of Tonga. This was funded by the United Nations through the Forum Fisheries Agency (FFA) and managed jointly between the Tongan Government and a local Tongan fishing company, Culture Fisheries.

"We supplied all the fishing equipment, technical advice, onboard training, and advice on marketing," Jo Rowley told *ENI*.

"The fishing equipment supplied included hydraulic reels and fine braided Dyneema lines were used as they are extremely strong, have no stretch and retain sensitivity at depth."

Deep Drop Commercial upgraded the electronics and installed Roxann bottom classification interfaced with Maxsea Professional 3D and a Furuno 3kW, 28kHz sounder.

"This enables fine differences in bottom hardness and roughness to be detected and the Maxsea 3D builds a 3D image of the bottom in real time. This

allows the fishermen to target specific fish species on different bottom types and depth ranges," he said, adding that he worked out of Tonga in 2000/2001 when he completed a longline survey targeting broadbill swordfish and working closely with the Tongan Government and local fishing companies.

"In 2008/2009 Culture Fisheries received funding from the FFA to explore deepwater fishing opportunities. A New Zealand-flagged auto liner was engaged to test the method and availability of stocks on the Tongan Ridge south of the capital Nuku'Alofa. Despite several cruises being undertaken, no commercial stocks of any deep water species were taken and their gear losses were substantial."

Jo Rowley and Culture Fisheries believed that there were stocks of blue eye trevalla and deep water groppers to be found and that auto-liners were not able to operate effectively the extremely rough volcanic bottom where these species occur. As a result, Culture Fisheries engaged Jo Rowley and Deep Drop Commercial to set up the Tonga-flagged fishing vessel *Pacific Sunrise* for deep-water target fishing and train a skipper and crew. This involves



MASSIVE: Deepwater dwellers like this are caught on seamounts south of Tonga as part of the project between Cultural Fisheries and Australian advisors Deep Drop Commercial



SPECIES: Some of the variety of species caught by *Pacific Sunrise* on fishing grounds 300 nautical miles south of Nulu 'Alofa

SYSTEM: One of *Pacific Sunrise*'s crew at one of the boat's three Virhydro haulers, each loaded with more than a kilometre of braided Dyneema line



combining skill and experience to fish in difficult currents and at different depths to steam off the targeted fishing ground to shoot away several strings of circle hooks baited with squid so that they hit the target area after being carried by the prevailing current.

"We took the *Pacific Sunrise* to the Tongan Ridge 300 nautical miles south of Nulu 'Alofa, where we found an unmarked extinct

volcano in 800m of water. Using Maxsea 3D and Roxann we were able to build up a bathymetric chart of the area and located substantial stocks of blue eye trevalla and barcod," he told *FNI*.

Valuable by-catches include kingfish, black pomfrets, flame snapper and semfish as well as other tropical snappers and sea perches, with most of the catch packed and exported to New

Zealand and Hawaii.

The success of the project has led to Tonga establishing an export market for their deep water reef species with a low-impact fishery. The strings of a limited number of hooks rarely spend longer than ten minutes on the bottom, with minimal gear loss, while the fishery can be pursued by relatively small vessels with lower fuel and operating costs.

Small is beautiful



DEVELOPMENT: A traditional Saintoise fishing boat in the French West Indies fitted with a Virhydro combined net and pot hauler, powered by a small hydraulic powerpack

"Our core market is the French West Indies," said Isabelle Blancard of Saint Malo company Virhydro, which supplies a range of fishing equipment designed for smaller craft. Originally established by Michel Maiziere as AFU, when its founder decided on retirement, the company and its partner engineering business were bought by the Blancard family.

The company concentrates on its range of hydraulic haulers and other equipment,

while also carrying a range of electrically-powered equipment for mainly leisure and other uses.

The company is supplying its hydraulic haulers and equipment to a widespread market, but the French West Indies are where there is a steady demand for Virhydro's combination net hauler and pot hauler, along with a small hydraulic powerpack that can be put on board a small boat.

"This is the standard product for the nine metre Saintoise boats that are used

there," she said.

"In France we have a steady market that is made up of fishermen who come direct to us for what they are looking for," Isabelle Blancard said, adding that YouTube has become an important marketing tool as fishermen like to see a video of a piece of equipment in use, both to see how it operates and also so they can see how much space it takes.

"There's also a European subsidy available to fishermen that covers up



EQUIPMENT: A netter in Guyana with a Virhydro net hauler on the gunwale. "We don't sell many spare parts. The knives are reversible so they can be used twice, but still have to be replaced eventually," Isabelle Blancard said. "But in general, there isn't a great deal to do in after-sales."

to 40% of the cost of new equipment, as long as they keep the equipment for at least five years, which can be a big help in meeting the costs of new deck equipment," she said.

"We have been getting more enquiries from fishermen in the UK and Ireland, as well as enquiries from scientific institutions, where they are looking for equipment to deploy and retrieve their nets and sampling gear. For these uses, electric power is preferred as the vessels don't always have suitable hydraulics in the right place and this kind of equipment also needs to be easily

moved."

Virhydro's agent in Australia, Deep Drop Commercial, has been highly successful in pioneering the use of Virhydro reels for fishing in very deep water, fishing for species in depths of 1,000m and more (See page 24).

"We haven't made any special alterations to these reels for this fishing, although we have increased the size of the drums to provide more space for line, as they are fishing with as much as 1,500m of Dyneema line on the drums at depths of 1,000 to 1,200m," Isabelle Blancard said.